Is job insecurity harmful to health?

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Over the past two decades huge changes have taken place in the structure of the labour market in the UK and other industrialized countries. Four factors in particular have contributed—deindustrialization, technological innovation, globalization and commitment to a free market economy, including the privatization of public services.

There has been a pronounced shift in the UK away from manufacturing towards the service industries. Technological innovation has allowed many low-level intellectual functions to be replaced by electronic devices (such as cash dispensers) and global information systems enable the rapid transfer of work to newly industrializing countries where labour is cheaper.

This deindustrialization and technological change has generally been accompanied by a strengthening of the role of market forces. In the UK the 1979 election brought in a government with profound commitment to the free market and a competitive, flexible labour-force. As a result many workers, formerly under the impression they had a job for life, have had their contract rewritten or been required to reapply for their own job against internal and external competition. These changes mean that patterns of employment and job security associated with the social order since the Second World War are undergoing major change. Like all social transformations these changes have the potential to affect the health of individuals and populations.

Research conducted during the major recessions of the 1930s and 1980s provided unequivocal evidence of the adverse effects on health and wellbeing of unemployment. However, much less work has been done on job insecurity—partly because there is less obvious reason to believe that it could affect health (unlike unemployment, it involves no loss of income or status), and partly because organizations undergoing major restructuring are not keen to have uncertainties exacerbated by researchers. In this paper I review the evidence from published research over the past three decades on the effects of job insecurity on psychological and physical morbidity, mortality, sickness absence and health service use.

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BACKGROUND

Defining the subject area

Social-attitudes surveys and studies of job characteristics suggest that security is of great importance to workers[1,2]. Hartley and colleagues define job insecurity, in general terms, as the discrepancy between the level of security a person experiences and the level s/he might prefer[3]. Some researchers limit the concept to the threat of total job loss while others extend it to include loss of any valued condition of employment[4]. These definitions encompass large numbers of workers who have insecure jobs—often seasonal, part-time or temporary, and frequently used to buffer short-term changes in labour requirements. Workers in this *secondary labour market* regard job insecurity as an integral part of their work experience and consequently have a relatively stable set of beliefs about the labour market and their prospects. For workers in the *primary labour market*, accustomed to long-term secure employment, job insecurity involves a fundamental and involuntary change, from the perception that their position in the organization is safe to the perception that it is not[3]. Restructuring, involving downsizing, privatization, mergers and closure, has led to an unprecedented rise in job losses among workers in this primary labour market.

The difficulty in studying job insecurity among workers in the secondary labour market is determining whether poor health outcomes can be attributed to job insecurity, or whether those in poorer health are selected into the secondary labour market. For this reason research findings included in this review are restricted to workers in the primary labour market.

Studies of job insecurity

Job insecurity can be self-perceived or externally attributed. The population in studies of self-perceived job insecurity is composed of individuals who report their job as insecure. In studies of attributed job insecurity the study population is deemed to be at risk by the researchers.

Perceived and attributed job insecurity are significantly associated in the expected direction[5,6], and the stress engendered by job insecurity depends on the perceived probability and perceived severity of job loss[3]. Perceived job insecurity is thus considered the more potent stressor

and associations are likely to be maximum estimates. However, studies of perceived job insecurity may be subject to reporting bias—that is, the tendency to accentuate the negative in a situation[7]. Conversely, groups to whom job insecurity is attributed will contain respondents who do not perceive themselves to be under threat and associations are likely to be minimum estimates.

Studies of job insecurity to date have largely been cross-sectional. In such studies exposure and health outcome are assessed at the same point. While useful for determining the presence of an association, cross-sectional studies are limited in their ability to indicate causality. Longitudinal studies, which assess exposures and outcomes over time, provide much more robust evidence for causality[8], but are less common because time-consuming and expensive. Since pre-existing ill-health is often the strongest predictor of subsequent morbidity, the ideal study of the effects of an exposure on an outcome will have data on participants before the exposure, follow-up long enough for the outcome to develop, and a control group that is similar except in terms of the exposure of interest. In the case of job insecurity, where data are required from a period of secure employment before any rumour of job losses, the opportunities for performing a study that fulfils these criteria are rare.

FINDINGS

Perceived job insecurity and psychological morbidity

Most researchers who have examined the effects of perceived job insecurity on health have looked at psychological morbidity as an outcome, often as the only outcome. Every published study has documented consistent adverse effects on psychological morbidity[5,6,9–18]. The robustness of the association has been enhanced by evidence of a dose–response relationship in two cross-sectional studies[14,15]. Evidence of direction of causation has been supplied by a longitudinal study in which minor psychiatric morbidity fell among unemployed men who had obtained secure employment by the time of follow-up but remained high among those who perceived their new jobs to be insecure[9]. Further evidence of causation has emerged from longitudinal studies in Sweden[17], Finland[16] and the UK[19], and there is some evidence that perceived job insecurity acts as a chronic stressor[11].

Attributed job insecurity and psychological morbidity

All but one of the studies of attributed job insecurity have documented an increase in psychological morbidity[20–27]. The notable exception is the Michigan study—an early, seminal, longitudinal study of blue-collar men[28]. This finding surprised the investigators, who attributed it to imperfect measurement techniques for affective states[29], and adverse psychological effects in individuals were indeed eloquently documented in a sociological account of the plant closure[30].

Perceived job insecurity and self-reported morbidity

Evidence that perceived job insecurity adversely affects self-reported morbidity is starting to accumulate, with reasonably consistent results for several health outcomes in cross-sectional and longitudinal studies[12,19,31–33]. Since most self-reported morbidity measures, such as symptom checklists, also measure psychological morbidity this is unsurprising. However, such measures also include somatic elements.

In the 1992 questionnaire of the Nurses' Health Study—a cohort of over 120 000 female registered nurses established in 1976, job insecurity was shown to be significantly associated with an increase in work role limitations due to physical and emotional problems[12]. Heaney and colleagues, in a study of job insecurity over 15 months among car workers, found that extended periods of job insecurity increased physical symptoms over and above the effects of job insecurity at any one point in time[31]. In a recent cross-sectional study in the Swiss general population, Domingehetti *et al.* found a dose–response relationship between job insecurity and all measures of morbidity—e.g. self-rated health 'less than good' and regular low back pain[15].

Attributed job insecurity and self-reported morbidity

Similar evidence has been found regarding the association between attributed job insecurity and self-reported morbidity. Whitehall II, a longitudinal study of white-collar civil servants[34], was able to take advantage of a natural experiment. Long after baseline data collection, one of the twenty departments participating in the study was sold to the private sector, a transfer of business in which most of the workforce lost their jobs. Three years before the sale, when privatization was just a rumour, increases in nearly every measure of self-reported morbidity were seen in both sexes (Figure 1). Increases were relative not only to control participants in departments not exposed to job insecurity but also, crucially, to pre-existing morbidity at baseline[25].

These results have been confirmed by other longitudinal data from Whitehall II, in which job insecurity was examined in relation to major organizational change across the Civil Service[27], and both these studies support earlier findings from the Michigan study[29]. Similarly, physical morbidity reported to the general practitioner (GP) has been shown to increase in the run-up to factory closure[35–37]. However, there seems no evidence of chronicity. Data from Whitehall

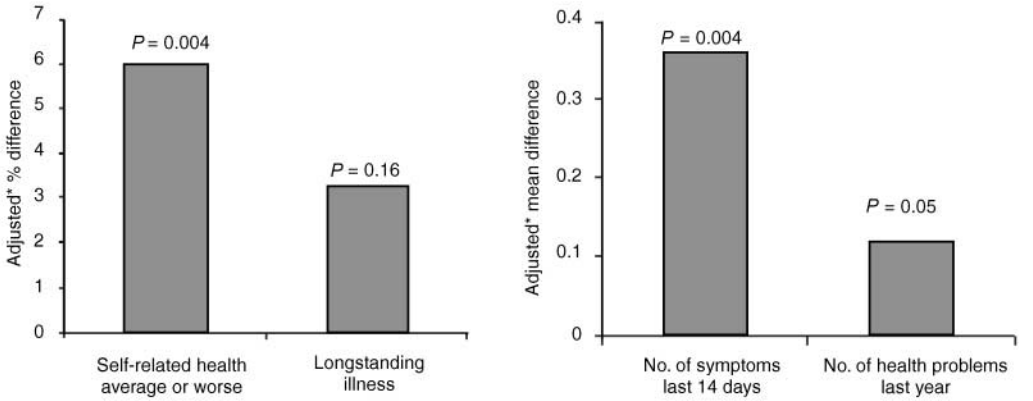

Figure 1 **Attributed job insecurity and self-reported physical morbidity.** Whitehall II three years before privatization (men). *Adjusted for age, employment grade and baseline morbidity [Data from Ref. 25]

II show that relative increases in self-reported morbidity were less three months before privatization than when change was first rumoured three years earlier[26]. There is robust evidence of sleep disturbance before redundancy[21,23,27,29,38] but not, to judge from a study in Finland, in time of economic recession[39].

JOB INSECURITY AND PHYSIOLOGICAL MEASURES

Little work has been done on the effect of job insecurity on physiological measures. Five studies have reported data on blood pressure—four longitudinal, in which job insecurity was attributed to workplace closure, and one cross-sectional, in which it was self-reported. Two of the workplace closure studies showed that blood pressure was raised before redundancy in blue-collar men[40,41] and in white collar workers[24], and the study of perceived job insecurity showed that men who reported a great deal of worry about losing their jobs had systolic pressures on average 8 mmHg higher than those who felt secure[42]. In the two studies that compared change in blood pressure over time between exposed groups and controls, results were mixed. No effect of threatened job loss was seen among shipbuilders[23], whereas the Whitehall II study showed job insecurity to be associated with a significant increase in blood pressure among men exposed to major organizational change[27], and among women three months before privatization of their department[26].

Except in two longitudinal Scandinavian studies, physiological measures other than blood pressure have been generally neglected. Non-significant increases in cortisol, prolactin and cholesterol were seen in blue-collar workers, mainly women, in the period before redundancy[21], and levels of adrenal hormones were raised among low-grade white-collar women threatened with unemployment[43]. Increases in cholesterol were also found in white-collar female civil servants exposed to major organizational change and in both sexes shortly before privatization of their department[26,27].

The Michigan study showed no change in body mass index (BMI) in the run-up to factory closure among blue-collar men[29], but BMI was consistently and significantly raised among white-collar civil servants exposed to job insecurity compared with controls, after adjustment for baseline BMI[26,27]. In a $6\frac{1}{2}$-year longitudinal study of middle-aged blue-collar men, perceived job insecurity was an independent, although non-significant, predictor of ischaemic heart disease after adjustment for major confounding somatic and behavioural coronary risk factors[44].

Attributed job insecurity and premature mortality

Almost no work has been done on the effect of job insecurity on mortality from disease or suicide, partly because job insecurity was hardly studied until the recession of the 1990s. Most earlier work is a spin-off from studies on unemployment and health.

In Finland, as a consequence of the oil crisis, the unemployment rate increased rapidly from 1975 to 1978. It peaked in 1978, after which it dropped as the economic situation improved. A comparison of male death rates for 1976–1977 with those for 1978–1980, in which respondents were divided into five levels of employment security based on the increase in unemployment from 1975 to 1978, revealed no significant differences between the groups[45].

Similar analyses of data relating to the Finnish recession of the early 1990s confirmed that mortality changes were similar in occupational groups that had seen small (from 4.5% in 1988 to 8.2% in 1992) or large (from 10% to 31.2%) increases in unemployment[46]. However, the degree of contraction in an industry may not be a good proxy for job insecurity. Also, lag times of 1–6 years may be insufficient to detect effects on mortality, although no

significant increases were found in a workplace closure study with 10 years' follow-up[47].

In his review of unemployment and suicide Platt cites eight studies with longitudinal data for individuals. Results from all but one point to greater job instability and occupational problems among suicides than in non-suicides[48]. 2 of the 46 men closely studied in the Michigan study committed suicide, 30 times the expected rate; however, numbers were too small to draw conclusions[29].

Job insecurity and sickness absence

When a large manufacturing firm cut its workforce by 27%, company-documented sickness absence increased among managerial and professional staff and decreased in lower grades[49]. A longitudinal study of the effect of organizational downsizing on sickness absence among local government workers in Finland revealed a significant association between medically certified, long-term sickness absence of more than three days and the degree of downsizing[50]. The association held for sickness absence from all causes, musculoskeletal disorders and trauma. In another paper from the same study, high job insecurity was found to increase the risk of long-term sick-leave by 30% and short sick-leave (three days or less, self-certified) by 20% compared with low job insecurity.

Figure 2 **Effects of longer-term (>10 days) attributed job insecurity on sickness absence.** *Adjusted for age, employment grade, marital status and baseline sickness absence. [Data from Ref. 52]

Figure 2 presents data from the Whitehall II job insecurity substudies which examined long spells of sickness absence among civil servants exposed to major organization change and those facing the imminent privatization of their department[52]. Outcomes in the former group accord with those of the Finnish studies and an early study of sickness absence among railwaymen threatened with redundancy[53]. However, the opposite was found in the latter group. This phase of the privatization process was also associated with an increase in morbidity, indicating that workers were not taking leave despite increasing ill-health. Similar decreases in sickness absence have been associated with threatened job loss in other studies[54,55].

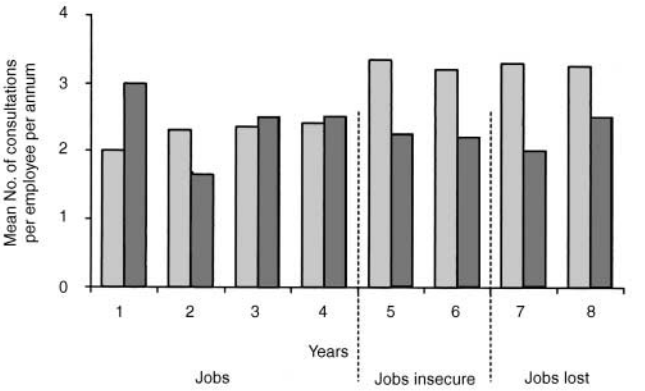

Figure 3 **Attributed job insecurity and general practitioner consultations in male employees aged 41–60.** Harris men; control men. [Data from Ref. 60]

Perceived job insecurity and health service use

Little work has been done on the relationship between perceived job insecurity and health service use. In one cross-sectional study, women exposed to job insecurity reported more GP consultations and hospital outpatient referrals than women in secure employment, although men reported fewer[56]. A cross-sectional study of managers, mostly men, showed a dose–response relationship between job insecurity and a composite measure that captured increased need to consult a physician or use medicines[14].

Attributed job insecurity and health service use

With the exception of hospital admissions before closure of a shipyard[57], increased health service use has been associated with attributed job insecurity in all studies that have examined this outcome[22,29,35,58,59]. Probably the most extensive investigation is the longitudinal study of the Harris factory closure. Years 5 and 6 of the study were the years during which the workforce knew about the closure before it actually happened. The number of GP consultations, hospital referrals and hospital attendances in these years rose significantly among workers, both relative to controls and relative to consultation rates during the previous 4 years of secure employment[60] (Figure 3).

JOB INSECURITY AND THE FAMILY

Effects on health service use in the Harris study were not restricted to the workers themselves. GP consultations, hospital referrals and hospital attendances were also greater in the workers' families during the insecure years than in the families of control workers and were higher than in the years of secure employment[57]. More recently, in cross-sectional analyses, tension in the home has been shown to

increase with increasing levels of perceived job insecurity[61]. Evidence of this 'spillover' confirms results from earlier studies of both perceived and attributed job insecurity which revealed effects on families[62,63]. Job insecurity among women has also been shown to be associated with low birthweight for gestational age[64].

Some have speculated that effects could also be manifest in the wider community[28] or the place to which the work is transferred[65]; in the Michigan study, where the new plant was non-unionized, staff were accustomed to poorer pay and working conditions[30].

RECOMMENDATIONS FOR FUTURE RESEARCH

Unequivocal evidence of a causal association between job insecurity and health would require studies comprising a longitudinal design, with baseline data from a period of secure employment for the subject group and a well-matched control group that remained in secure employment. Opportunities for ideal studies are therefore rare. The body of evidence to support a causal link between job insecurity and health, with the exception of psychological health, remains small. However, job insecurity has become more widespread in all OECD countries over the past decade[66].

Little research has been done on the distribution of job insecurity, although Finnish data have demonstrated an association with socioeconomic position[67]. Further work is needed to establish the distribution of job insecurity by social class, age and gender and the contribution of acute and chronic job insecurity to widening socioeconomic inequalities and gender differences in morbidity and mortality.

In addition to effects on individuals, the wider impact of job insecurity on the family and on society requires further investigation. Considerable evidence already exists of the adverse effects of job insecurity on organizational variables such as commitment[3,11,68] and effort[14]. Although some work has been done on the spill-over effects of these changes on the family[63,69], evidence remains sparse. Finally, the financial and societal costs of job insecurity have just begun to be considered and documented[70,71]. In a policy context of increasing concern for cost and cost-effectiveness, attempts should be made to measure the full costs of the flexible labour market[72].

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